



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
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ATLANTA, GEORGIA 30303-8960

March 9, 2010

Mr. William R. Henderson
District Planning and Environmental Manager
Florida Department of Transportation
1109 S Marion Avenue
Lake City, Florida 32025-5874

SUBJECT: Draft Environmental Impact Statement for the St. Johns River Crossing
Project connecting the proposed SR 21/SR 23 Interchange in Clay County,
Eastward across the St. Johns River to I-95 in St. Johns County, Florida
CEQ No. 20090451

Dear Mr. Henderson:

The U.S. Environmental Protection Agency (EPA) has reviewed the referenced Draft Environmental Impact Statement (EIS) in accordance with its responsibilities under Section 309 of the Clean Air Act and Section 102(2)(C) of the National Environmental Policy Act (NEPA). The Florida Department of Transportation (FDOT) and the Federal Highway Administration (FHWA) propose to construct a highway corridor and bridge crossing the St. Johns River beginning at the intersection of Branan Field-Chaffee Road and SR 21 in Clay County and ending at I-95 or SR 9B in St. Johns County, Florida.

The proposed facility would be a combination of four, six, or eight lanes depending on the traffic needs for each Build Alternative. Ten alternative alignments are proposed and the total length of the proposed project ranges from approximately 25 to 36 miles, depending on which alternative is selected. The majority of the proposed roadway would be on new alignment. Two alternatives (Black and Purple) include a new St. Johns River bridge crossing location north of Green Cove Springs. The other eight alternatives (Brown 1 and 2, Orange 1 and 2, Green 1 and 2, and Pink 1 and 2) include removal and replacement of the existing Shands Bridge. Depending on the alternative, there are seven to nine interchanges proposed. The No Build alternative which does not meet the purpose and need provides a baseline to compare and measure the effects of the Build Alternatives.

FDOT states that the St. Johns River Crossing project would be combined with Branan Field-Chaffee Road for tolling purposes only to make the new project toll feasible. The Pink 1 Alternative was identified as the Locally Preferred Alternative in the Draft EIS. It is expected that a public-private partnership will be eventually formed under a contractual arrangement whereby collaboration will be followed in the design, construction, operation, and financing of the transportation project. FDOT would shape the technical, legal, and financial aspects of the project.

EPA has been involved with the St. Johns River Crossing project since 2006 through the Florida Environmental Transportation Decision Making (ETDM) process. EPA reviewed and provided comments on four alternatives (Black, Alt #1), (Brown, Alt #2), (Pink, Alt #3), and (Purple, Alt #4) as an ETDM Programming Screen Review in May and June 2006. In general, the issues of primary concern identified during the Programming Screen Review included floodplains, wetlands, and wildlife and habitat. The project was also presented and discussed at Environmental Technical Advisory Team (ETAT) meetings in 2006 and 2008.

EPA has environmental concerns regarding potential direct, indirect, and cumulative impacts of the project. EPA is providing comments on air quality, traffic noise impacts and mitigation, surface water quality, wetlands avoidance and minimization, compensatory wetlands mitigation, hazardous and contaminated sites, and environmental justice and social impacts which occur in the project area. Sustainable development, cultural resources, wildlife and habitat, and fish and aquatic resources are additional areas of concern. All of the alternatives have significant impacts to resources of concern, including, jurisdictional wetlands, regulatory floodplains, and wildlife and habitat.

In order to meet the requirements of the Clean Water Act Section 404(b)(1) Guidelines, FDOT must demonstrate that the discharge of dredged or fill materials into jurisdictional waters of the United States is unavoidable and that the least environmentally-damaging practicable alternative that will fulfill the basic project purpose has been selected. EPA generally attempts to recommend an alternative (or alternatives) that might be appropriate to meet the requirements of the National Environmental Policy Act (NEPA) and the 404(b)(1) Guidelines. However, other than the Black Alternative (748 acres of impact), the other nine Build Alternatives have wetlands impacts within ten percent of each other (476 to 518 acres). Therefore, the Draft EIS does not contain sufficient information and mitigation commitments for EPA to fully assess environmental impacts of the proposed project to make a definitive recommendation at this time.

Based on the information provided, EPA prefers the southern alignments (Brown 1 and 2, Orange 1 and 2, Green 1 and 2, and Pink 1 and 2) because they do not result in an additional bridge location across the St. Johns River since a new bridge would replace the existing Shands Bridge. EPA has environmental objections to the northern alignments (Black and Purple). The Black Alternative has the greatest direct wetland impacts. Both the Black and Purple Alternatives will result in an entirely new river crossing. The Jacksonville area in northern Clay and St. Johns Counties is currently undergoing rapid population and employment growth with or without the proposed project. Construction of a new bridge crossing and supporting interchanges in this northern corridor would significantly accelerate and intensify existing suburban sprawl and induce several hundred acres, or more, of additional environmental impacts with future development.

Since this project has the potential to have a significant effect on wetlands and fish and wildlife resources, EPA strongly recommends that a regional plan for avoidance, minimization, and mitigation for project effects be developed. FDOT should consider convening a technical advisory team of state, federal, and local resource and permitting agencies to assist in the process of formulating this plan in a manner compatible with existing regional natural systems for the

protection of fish and wildlife and habitat resources in the potentially affected project area. This should be done prior to the release of the Final EIS.

Due to the number of alternatives under consideration for the project and the possible alignment combinations that may ultimately be used for the final roadway alternative, EPA considered a NEPA rating for each alternative, and then selected the lowest rating for the overall project as required by EPA guidelines. EPA identified significant environmental impacts that must be avoided in order to provide adequate protection of the environment. These impacts are detailed in the enclosed comments. EPA rates the overall project EO-2 (enclosed is a summary of definitions for EPA ratings). We have strong concerns that all of the alternatives will have significant adverse impacts on the environment that should be avoided and minimized. Corrective measure may require changes to the alternatives or application of additional mitigation measures that can reduce the environmental impact.

As indicated in the enclosed detailed comments, EPA is requesting that FHWA provide clarifications, supplementary information, and explanations of certain conclusions found in the Draft EIS. The preferred alternative should be identified in the Final EIS, along with mitigation details to address the potential impacts of the preferred alternative.

Thank you for the opportunity to review the proposed action and comment on this Draft EIS. If you have any questions or would like to discuss EPA's comments, please contact Madolyn Dominy at (404)562-9644.

Sincerely,



Heinz J. Mueller, Chief
NEPA Program Office
Office of Policy and Management

Enclosures

cc: Federal Highway Administration – Florida Division
U.S. Army Corps of Engineers – Jacksonville District
U.S. Fish and Wildlife Service – Jacksonville Office
National Marine Fisheries Service – Southeast Regional Office
Florida Department of Environmental Protection
Florida Fish and Wildlife Conservation Commission

U.S. ENVIRONMENTAL PROTECTION AGENCY

ENVIRONMENTAL IMPACT STATEMENT (EIS) RATING SYSTEM CRITERIA

EPA has developed a set of criteria for rating Draft EISs. The rating system provides a basis upon which EPA makes recommendations to the lead agency for improving the draft.

RATING THE ENVIRONMENTAL IMPACT OF THE ACTION

- **LO (Lack of Objections):** The review has not identified any potential environmental impacts requiring substantive changes to the preferred alternative. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposed action.
- **EC (Environmental Concerns):** The review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact.
- **EO (Environmental Objections):** The review has identified significant environmental impacts that should be avoided in order to adequately protect the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). The basis for environmental objections can include situations:
 1. Where an action might violate or be inconsistent with achievement or maintenance of a national environmental standard;
 2. Where the Federal agency violates its own substantive environmental requirements that relate to EPA's areas of jurisdiction or expertise;
 3. Where there is a violation of an EPA policy declaration;
 4. Where there are no applicable standards or where applicable standards will not be violated but there is potential for significant environmental degradation that could be corrected by project modification or other feasible alternatives; or
 5. Where proceeding with the proposed action would set a precedent for future actions that collectively could result in significant environmental impacts.
- **EU (Environmentally Unsatisfactory):** The review has identified adverse environmental impacts that are of sufficient magnitude that EPA believes the proposed action must not proceed as proposed. The basis for an environmentally unsatisfactory determination consists of identification of environmentally objectionable impacts as defined above and one or more of the following conditions:
 1. The potential violation of or inconsistency with a national environmental standard is substantive and/or will occur on a long-term basis;
 2. There are no applicable standards but the severity, duration, or geographical scope of the impacts associated with the proposed action warrant special attention; or
 3. The potential environmental impacts resulting from the proposed action are of national importance because of the threat to national environmental resources or to environmental policies.

RATING THE ADEQUACY OF THE ENVIRONMENTAL IMPACT STATEMENT (EIS)

- **1 (Adequate):** The Draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.
- **2 (Insufficient Information):** The Draft EIS does not contain sufficient information to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the Draft EIS, which could reduce the environmental impacts of the proposal. The identified additional information, data, analyses, or discussion should be included in the Final EIS.
- **3 (Inadequate):** The Draft EIS does not adequately assess the potentially significant environmental impacts of the proposal, or the reviewer has identified new, reasonably available, alternatives, that are outside of the spectrum of alternatives analyzed in the Draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. The identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. This rating indicates EPA's belief that the Draft EIS does not meet the purposes of NEPA and/or the Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised Draft EIS.

EPA Region 4 Comments
St. Johns River Crossing Project
Draft Environmental Impact Statement (Draft EIS)
CEQ No. 20090451

Overview

The St. Johns River Crossing Project is proposed to provide a solution to existing transportation problems in the project area such as providing additional capacity to improve current and future transportation network deficiencies, promote and support employment and economic development, and improve emergency evacuation. The Draft EIS includes the following statement of purpose for the project: *“To add population growth and resulting traffic by providing additional capacity that meets the area’s transportation, economic, employment and safety needs while avoiding, minimizing, and/or mitigating effects on the affected communities and the environment.”* One location may be preferred to another. However, every alternative has adverse impacts to the environment and the community.

EPA understands that sustainable growth and proper land use planning is critical to economic growth, developing healthy communities, and protecting the environment all at the same time. It also recognizes that the primary responsibility for land use decisions is at the local level. Therefore, suggestions and recommendations are offered that should assist state agencies, federal agencies, and communities to balance the transportation needs with the project impacts to reach a sound final decision.

General

The Draft EIS states in the Executive Summary (pg. ES-11) that a final Preferred Alternative will be selected after the Draft and Final EIS processes are complete. The Preferred Alternative will be identified in FHWA’s Record of Decision for the proposed St. Johns River Crossing Project. EPA does not agree with deferring the identification of a Preferred Alternative until after the Final EIS. The intent of NEPA is to publicly disclose what the preferred alternative is in the Final EIS. That way, EPA, other regulatory and resource agencies, and the public can comment on the preferred alternative and the NEPA administrative record can be established. Then in Section 2.15 on page 2-59 it is stated that the Final EIS will present the selection of the Preferred Alternative. This discrepancy should be corrected and the paragraph in the Executive Summary rewritten to reflect the language on page 2-59.

Section 2.2.2, pages 2-7 to 2-8, details why the Red & Blue Alternatives were eliminated from further consideration. By rejecting the Red & Blue Alternatives, FDOT is eliminating two transportation improvement alternatives that would both have substantially less wetland and water quality impacts than any of the evaluated Build Alternatives. The discussion in the Draft EIS of the 2004 Arterial Corridor Analysis uses traffic modeling to project out to the 2015-2035 timeframe to predict that Level of Service (LOS) for some of the effected roadways would be insufficient. All ten Build Alternatives will result in significant direct impacts to natural

resources such as wetlands and wildlife habitat. Based upon information on the Red & Blue Alternative alignments, it appears that both of these alternatives would have a significantly lower amount of the wetland impact acreage as compared to even the least damaging Build Alternative (Orange 2 – 476 acres). Additional information regarding the rationale for elimination of these two alternatives is suggested.

Noise

Noise Methodology

Overall, the Draft EIS provided good background information for the public reviewer. However some additional information is requested for the Final EIS:

Resultant Noise: The FHWA Noise Abatement Criteria (NAC) are 67 dBA (residences) and 72 dBA (businesses). We agree that residences exposed to the 66 dBA level approaching the 67 dBA criterion should already be considered for mitigation. However, the NAC discussion in the Final EIS should include a noise metric. Traditionally, this is the “Leq” or “equivalent noise level” over some timeframe, usually one hour (“Leq(1)”), as opposed to any other noise metric (“L10” or “Ldn”) or instantaneous measurement. The Final EIS should clarify.

Incremental Elevation Noise: Although we understand it may be FDOT policy, EPA does not agree that +15 dBA is the best threshold for significant project incremental noise elevations. Instead, we find that +10 dBA better identifies the threshold because it represents a doubling of noise at any ambient noise (baseline) level.

Noise Modeling: It is unclear if all residences impacted by each alignment alternative were enumerated or if only selected areas (monitoring sites) along the alignment were documented. Although considerable noise data were presented, the Final EIS should provide a summary table for clearer documentation by alternative. That is, EPA requests that a Final EIS summary of the number of residences (single vs. multi-family) located within the 66 dBA Leq contour be provided, preferably with actual predicted resultant levels for each residence. Alternatively, the number of residences could be grouped within ranges such as the 66-70 dBA Leq contour and the 70-75 dBA Leq contour and the >75 dBA Leq contour. For incremental elevations, the number of residences (single vs. multi-family) elevated by <10 dBA, 10-14 dBA, 15-20 dBA, and >25 dBA should be provided for each alternative. To better determine the magnitude of the noise impact, the number of affected residents should also be estimated for the above categories using the current average number of residents per residence (e.g., U.S. Census data). Noise impacts to businesses should also be reasonably documented.

Noise Mitigation

Potential noise mitigation addressed in the Draft EIS is essentially limited to construction BMPs and noise barriers, although traffic management measures, alignment modification, property acquisition programs and land use controls were listed. FDOT did not find noise barriers to be useful in some locations (e.g., could not be made long and continuous enough) or too expensive in others (residences not clustered and exceeded FHWA’s \$42,000 threshold per benefitted residence).

Although we have requested a better summary of residential impacts, it is clear that there would be noise impacts attributable to the proposed project for all alternatives that are not being proposed for mitigation. The Draft EIS only offers that property acquisition would be “further evaluated” (pg. 3-26) during the design phase and that noise impacts to the already noise-impacted “trailheads” would be reanalyzed (pg. 3-28).

Because unmitigated significant noise impacts would be generated by the proposed project, we recommend that additional noise mitigation be considered in the Final EIS and offer the following for further consideration:

Property Acquisition

The criteria used by FDOT for acquiring property for roadway projects should be disclosed as FDOT considers this measure in the project design phase. Would residences need to actually be located within the proposed ROW before they could be acquired, or just nearby with significant project noise exposure?

Pavements Types

Recent research on pavement types has shown that reduction in tire noise is possible depending on the type of pavement used (e.g., rubberized pavement). Have such types of pavement been considered?

Earthen Berms

Depending on the amount of fill available from highway cut-and-fill work (perhaps none for Florida projects), the use of earthen berms might be feasible since they would be less expensive than metal noise barriers and therefore could be used where conventional barriers are not cost-effective. They would also be more natural and scenic to the landscape, and could be vegetated.

Truck Noise

What percentage of the project traffic will consist of trucks and can this be reduced? Although slow speed limits for cars may not be practical to reduce noise, slower speed limits for trucks may be more reasonable and should be discussed. This could be important since tire and engine noise from one truck equals the noise generated by many cars.

Combined Methods

Although individually a particular mitigative method may not reduce noise levels by -5 dBA or more, several incremental methods could cumulatively reduce levels substantively. Using more than one form of incremental mitigation should be considered and discussed in the Final EIS.

Wildlife Noise Impacts

Less research exists for noise effects on wildlife than on humans. However, given that some alternatives would traverse the Bayard Conservation Area, the Final EIS should discuss noise impacts to local wildlife. Discussion should include the U.S. Fish and Wildlife Service and their State of Florida counterparts.

Construction BMPs

EPA appreciates the inclusion of the listed construction BMPs (pg. 3-29) and agrees with their project use to minimize construction noise. Although construction noise is temporary, use of screens (hush houses) around stationary equipment and mufflers for earthmoving equipment would help attenuate noise at its source. The Final EIS should estimate the time of construction (months) to help document the magnitude of construction noise.

Summary

For the Final EIS, EPA requests that project noise data be summarized by alternative to show the number of residences (and estimated residents) exposed to project resultant noise and incremental increases. Although helpful construction BMPs are offered, noise mitigation for highway operation should be reconsidered since significant noise impacts would be generated by the proposed project remain unmitigated. Mitigative measures include property acquisition, pavement types, vegetated earthen berms, reduced truck traffic and combinations of incremental measures that collectively could offer meaningful attenuation. Noise-effects on local wildlife should also be considered for alternatives traversing the Bayard Conservation Area.

Land Use Planning

This project encompasses two counties, Clay and St. Johns Counties, west and south of Jacksonville. These two counties have changed significantly over the past 20 years from a primarily rural and silviculture area to a suburban region of the Jacksonville area. St. Johns County is experiencing a much higher growth rate than Clay County and development primarily consists of residential land uses. The project area also contains agricultural and timber lands, conservation and recreation lands, and undeveloped areas. For all of the alternatives, land use conversions will affect residential, commercial, agricultural/timber, and undeveloped lands (including several acres of wetlands).

Sustainable land use decision-making takes into account the entire region, for present needs as well as the impact on future generations. The decision to build a roadway of this magnitude, along with other development, should begin with the region coming together to develop a community vision for the area for current and future generations. In this instance, the two counties should come together to decide where and how to grow. Broad public participation has occurred in numerous public meetings, and FDOT has developed and implemented a Public Involvement Plan (PIP).

EPA recognizes that local and state governments have primary jurisdiction over land use decisions. However, we can assist in the process of making sound infrastructure decisions. We therefore provide the following suggestions:

1. Create policies for potential developers that support smart growth (e.g., better measures of consumer demand; tools to increase the availability of financing for mixed use and transit-oriented development).

2. Establish standards that will encourage smart growth (school siting, road design, sewage capacity, and open space preservation); examine ways to help the public minimize reliance on personal motor vehicles.
3. Consider impacts beyond the immediate impacts of construction. The cumulative impacts on the environment, community, and historical values, as well as the fiscal impact of new services and the community's ability to comply with air and water quality goals.
4. In addition to roadways, consider a variety of transportation alternatives, including biking, car pooling, walking and transit. Create transportation options. Reduce automobile dependency.
5. Ensure all communities affected by the proposed roadway and bridge have input to shape the region for a sustainable future. Sponsor community forums to provide the public with input on future development. Select what new development follows the construction of the roadway and bridge, in a way that minimizes the environmental and social impacts.
6. Use the most up-to-date population and growth statistics cited in the most recent available Census data.

Smart growth can encourage planned development in a way that grows healthy, prosperous communities, and finds a balance between economic growth and environmental protection. We must help communities grow economically, without sacrificing quality of life.

Sustainable development means shaping growth and development patterns that not only serve the immediate and near future needs of a community, but do not foreclose opportunities for the community in their long term future.

Socioeconomic and EJ

The Draft EIS examines the effect of the southern and northern Build Alternatives, including a new bridge across the St. Johns River, on minority and/or low-income populations. Executive Order 12898 "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" (February 11, 1994) and its accompanying memorandum's primary purpose is to ensure that "each Federal agency shall make achieving environmental justice (EJ) part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations ..."

EPA assessed whether FDOT and FHWA analyzed the environmental effects of the proposed action on minority communities and low-income communities within portions of Clay, St. Johns, Putnam and Duval Counties. Based on EPA's review, FHWA and FDOT primarily used Census data to analyze the demographics and effects of the proposed project, including

human health, economic, and social effects, on minority communities and low-income communities.

FDOT and FHWA determined whether the potentially affected area included minority and/or low-income populations. Based on the Draft EIS analysis, it appears as though EJ communities are located within or adjacent to the Black, Brown 1 and 2, Orange 1 and 2, Green 1 and 2, and Pink 1 and 2 Alternatives. The alternatives that cross the St. Johns River at the Shands Bridge location will potentially result in impacts to EJ populations.

- In 2004, it appeared as though Putnam County had a greater percentage of people living below the poverty level compared to the State of Florida while Duval County had a similar percentage of people living below poverty compared to the State. Clay and St. Johns Counties both had smaller percentages of people living below poverty. Even though Clay County had fewer low income households than the state, low income communities occur along the southern alternatives within Clay County.
- The Draft EIS also examined the minority populations within the project area. In 1999, the minority population within the affected area was 12.5 percent. However, it is unclear in the Draft EIS what the State average was during this timeframe. In 2006, it appeared as though Duval County had a similar minority population to the State of Florida, but a greater African American and Asian population than the state average. Even though St. Johns County has a low minority population overall, there are identified minority block groups exhibited on page 3-55.

The proposed project will have the greatest number of residential and commercial displacements along the Black and Purple alternatives (58 and 57, respectively) while the fewest displacements will occur along the Brown 1 and Pink 1 alternatives (31 and 34, respectively). When low-income and/or minority displacements are taken into consideration, the two northern roadway alignments will result in the fewest number of residential and commercial displacements (Black-1 and Purple-0). While the southern alignments will displace many low-income and/minority residents (Brown 1-11 and Brown 2-22, Orange 1-23 and Orange 2-34, Green1-17 and Green 2-28 and Pink 1-4 and Pink 2-15). According to the Draft EIS, most of the southern alignments have the potential to disproportionately impact EJ populations. However, Pink 1 appears to be the preferable alternative because it has one of the fewest total displacements and EJ displacements overall.

According to the Draft EIS, the proposed project will include a toll road facility where drivers will be charged approximately \$2.30 per trip. This action has the potential to adversely affect disproportionately low-income users. To address potentially significant adverse economic impacts on low income communities due to tolling, the Draft EIS outlined specific measures to eliminate bridge tolling impacts for the southern alternatives. FDOT decided to eliminate the bridge-crossing toll on the southern alternatives for trips using the toll road solely to cross the river. If any of the southern alternatives are selected (where the Shands Bridge would be replaced), trips using the toll road solely to cross the river would remain toll-free. This would enable low-income users to continue to have access to the bridge crossing without a toll expense. While this minimizes the magnitude and/or type of adverse impacts associated with the proposed

project, the benefits that accrue from an upgraded facility, including improvements to the transportation network, improved emergency evacuation and potentially support for employment and economic development are unlikely to be experienced by these populations. The benefits of these improvements will be experienced by those that can afford access. On the other hand, the northern alternatives will create a new northern tolled crossing of the St. Johns River. These alternatives will not result in substantial EJ impacts, including relocations or tolling, nor will they result in any benefits.

The Draft EIS includes an assessment of languages spoken in the project areas and identifies the need to use Spanish at future public meeting to ensure that accessibility of public meetings, official documents, and notices to affected communities is improved. As a part of the Socioeconomic and EJ review, it would be helpful to include a summary of the public comments obtained during the NEPA process and the lead agency response to comments along with a reference or summary of the opportunities provided to the community for public input in the NEPA process in the Final EIS.

Cultural Resources/Historic Preservation

EPA recognizes that the project has the potential to affect cultural resources. The Draft EIS includes the identification and evaluation of what cultural resources are known or expected to be located in the area of each alternative. It also includes a summary of potential impacts to cultural resources (Exhibit 3-36) for each of the project alternatives. EPA is aware of the ongoing National Historic Preservation Act Section 106 consultation with the Advisory Council on Historic Preservation and the State Historic Preservation Officers. Therefore, EPA defers to the parties involved in the Section 106 consultation to consider and to address those potential adverse effects associated with the proposed project.

Information provided in the Draft EIS identifies cultural and historic resources which could potentially be impacted by all of the project alignments. EPA recommends that FHWA include the results of the Section 106 consultation process in the Final EIS (as stated in the last paragraph on pg. 3-69). This will insure that any adverse effects to cultural/historic resources, and possible mitigation measures for adverse effects, are identified for each alignment, and taken into consideration when selecting the alignment(s) and options that comprise the preferred alternative identified in the Final EIS.

Section 4(f) Resources

EPA recognizes that the project has the potential to affect Section 4(f) resources (parks, recreation and historic properties). The Draft EIS only provides a brief summary of the Section 4(f) regulations and preliminary analysis. An initial identification of what Section 4(f) resources are known or expected to be located in the area of each alternative was included in the Draft EIS, along with a summary of potential effects on Section 4(f) resources (Exhibit 3-38) for each of the project alternatives. EPA defers to the parties involved in the Section 4(f) determination process to consider and to address those potential adverse effects associated with the proposed project.

Information provided in the Draft EIS identifies numerous Section 4(f) resources which could potentially be impacted by the project alignments. EPA recommends that FHWA include the Final Section 4(f) Evaluation in the Final EIS (as stated on pg. 3-70).

Air Quality

The Draft EIS notes that the proposed facility will consist of 4, 6, or 8 lanes, and that the lengths of the alternative road paths range from approximately 25 to 36 miles. The corridor bridge traffic volume across the St. Johns River for the various alternatives would range from about 74,000 to about 79,000 Average Annual Daily Traffic (AADT) (pg. 3-7). The Draft EIS adds that the project focuses on the communities south of Duval County where a large amount of residential development is occurring. By 2025, the developments in St. Johns County are projected to add more than 500,000 daily trips to area roadways (pg. 1-6). Some of the alternative project pathways traverse these residential areas.

In a September 30, 2009, memo (Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA Documents) to Division Administrators of the Federal Lands Highway Division Engineers, April Marchese, Director of the Office of Natural and Human Environment, stated, "The NEPA (National Environmental Policy Act) requires and FHWA is committed to the examination and avoidance of potential impacts to the natural and human environment when considering approval of proposed transportation projects." "Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the U.S. Environmental Protection Agency (EPA) regulate 188 air toxics, also known as hazardous air pollutants."

Accordingly, evaluation of 30-mile, multilane, highway/bridge project alternatives through an area with a rapidly growing population should include a comparative analysis of each of the alternatives that considers their potential impacts associated with the emissions of air toxics, both during construction and when the project is operational. The Draft EIS addresses air quality (exclusive of Greenhouse Gas Emissions) on pages 3-102 through 3-104, and in an Air Quality Impact Technical Memorandum which focuses on carbon monoxide. The report does not address the potential impacts associated with emission of air toxics during construction or from the roadway once it is operational. For a project of this magnitude, the air toxics analysis should include a quantitative inventory of emissions by location; dispersion modeling to estimate air toxics concentrations in areas along and outside the footprint of the project; and a screening level risk assessment of the potential impacts of the emissions on nearby groups. The analysis should identify the locations of sensitive populations such as those at schools, hospitals, day care facilities, nursing homes, etc.; whether there are populations with currently high rates of adverse health conditions that might be exacerbated by the air toxics emissions; and whether any of the nearby communities are medically underserved or environmental justice communities. The analysis should also identify other large sources of air toxics in the area whose emissions are likely to increase or decrease if the project moves forward. The analysis should include an estimate of the maximum potential impacts in the areas most likely to be affected around the project.

Given that the project will build a major roadway through populated areas, the Draft EIS should also discuss the literature concerning near-roadway health impacts particularly to sensitive receptors. There is a large and growing body of studies on the topic.

The Draft EIS mentions several mitigation alternatives for air quality on page 3-103. Other approaches that should be incorporated include imposing a ban on open burning; limiting construction to the smallest footprint feasible to avoid environmental degradation and to reduce the amount of dust generated during construction; and requiring that all construction equipment install the latest air pollution control devices and use ultra low sulfur fuel exclusively.

Water Resources

The Draft EIS identifies four water bodies as being impaired based on the EPA 2002 list of Section 303(d) of the Clean Water Act verified impaired waters (Black Creek, Durbin Creek, Grog Branch, and Peter's Creek (pgs. 3-111 to 3-112). It then mentions on page 3-113 that the St. Johns River is an impaired water body for nitrogen. This needs to be verified and corrected in the Final EIS.

The discussion of effects to water quality in the study area is insufficient. EPA has concerns about degradation of water quality in various waterways from erosion, siltation and other pollutants associated with road construction and operations. The EIS should analyze the potential for significant impacts to water quality from construction activities and indirect impacts associated with development and land use changes in the study area. There is no discussion regarding demolition techniques for the existing Shands Bridge (for the southern alternatives) and the construction of the new bridge across the St. Johns River and how these activities are likely to affect water quality (short- and long-term) in the St. Johns River. Details outlining avoidance and minimization efforts for these construction activities should be discussed in the Final EIS.

All of the project alternatives cross surface water features or basins which appear on the 303(d) list. Federal regulations prohibit discharges that cause or contribute to significant degradation of waters of the United States. Significant degradation can include individual or cumulative impacts to human health and welfare; fish and wildlife; ecosystem diversity, productivity, and stability; and recreational, aesthetic, or economic values.

EPA encourages FHWA and FDOT to consult with the Florida Department of Environmental Protection (FDEP) and the SJRWMD regarding the status of development of Total Maximum Daily Loads (TMDLs) for these waterbodies and how the proposed new alignment alternatives could affect implementation or restoration efforts in these basins. Although many of the TMDL studies for these waterbodies may not have been initiated, they will most likely be finalized before construction of the project. The proposed project could have an impact on the future ability of delisting waterbodies from Florida's 303(d) list. Therefore, there should be a commitment in the Final EIS to work with FDEP as part of the TMDL development to ensure that all construction activities and contaminants of concern are included in future TMDLs.

In addition to the potential to have direct impacts to water quality, the project will result in induced development which could affect water quality in the project area. Interchange areas typically result in the most concentrated induced development from a highway/bridge project. The location of various interchanges may not be conducive to protecting water quality and surrounding wetlands. The Draft EIS does not provide this type of analysis for the project alternatives.

Much of the discussion in this section is in conditional terms with few specific commitments for mitigation. In the Final EIS, FDOT should identify the specific Best Management Practices (BMPs) to be applied to attain appropriate reductions in sediment loads and what additional monitoring will be conducted to achieve pollutant reductions. Mitigation measures related to protection of water quality should be tailored depending on the condition of the specific water resource as well as the severity of the potential impacts. All appropriate steps should be taken to address potential impacts to water quality within streams and wetlands. Proper control of stormwater runoff during construction will be critical. Construction activities have the potential to introduce sediments in adjacent waterbodies that could exacerbate problems relative to increasing sediment oxygen demand which affects dissolved oxygen levels. Monitoring commitments should be included to ensure that water quality and in-stream habitat are fully protected. One of the challenges for the reduction of sediment loading from construction sites is effective compliance monitoring of all requirements specified in the permit and timely enforcement against construction sites not found to be in compliance with the permit. Stormwater controls should be monitored periodically for the duration of construction and maintained to help ensure success (e.g., silt fences emptied and hay bales replaced).

To further assist in the long-term reduction of pollutant loadings to impaired surface water resources in the project area, EPA recommends that all storm water runoff from the proposed roadway be collected and treated before being discharged to surface waters. In other areas, typical BMPs, including the use of staked hay bales, silt fences, mulching and reseeded, and use of buffer zones along water bodies, are appropriate. These commitments should be included in the Final EIS.

EPA recommends careful consideration of all water quality impacts, including whether the preferred alignment has first avoided, then minimized impacts to water quality, and then whether there are feasible mitigation measures that will be utilized to rectify any unavoidable impacts to affected waterbodies. The Final EIS should identify whether the preferred alternative with its associated alignment, is the least environmentally damaging practicable alternative that satisfies the Purpose and Need per Clean Water Act Section 404(b)(1) Guidelines (Title 40 of the Code of Federal Regulation, Section 230).

Wetlands

The proposed roadway has the potential for substantial direct and indirect effects to a significant amount of high quality fish and wildlife habitat; could result in significant regional habitat fragmentation and isolation; and could adversely affect water quality and sedimentation in a moderate number of streams, including the St. Johns River. While the project is responding

to existing development pressure, this new regional roadway could accelerate additional residential and commercial development within vast areas of Clay and St. Johns Counties due to improved access and roadway connections to I-10 and I-95.

Wildlife habitat and wildlife resources that could be potentially affected in this regional area include herbaceous and forested wetlands characterized by bay swamps, cypress swamps, mixed wetland forests of hardwoods and cypress, hydric pine flatwoods, shrub swamp, and submerged and emergent aquatic vegetation, along with freshwater marsh and wet prairie. Uplands are generally characterized by mesic and xeric pine flatwoods, along with commercial planted pine plantations, upland hardwood forests, mixed hardwood-pine forests, xeric oak scrub, longleaf pine/turkey oak sandhills, dry prairie, and shrub and brushland. The St. Johns River and numerous streams and tributaries occur in the regional area, including Black Creek, Bradley Creek, Greens Creek, Peters Creek, Governors Creek, and Trout Creek. Furthermore, the Hallows Cover area of the St. Johns River, which is just south of several of the proposed project alignments, has been identified as supporting nearshore grassbeds and serves as an important fisheries nursery area.

The Draft EIS documents wetlands acreage that is directly impacted by the alignments under consideration. Exhibit 3-48 (pg. 3-117) compares the total wetlands impacts of each of the Build Alternatives in a tabular format. Exhibit 3-49 (pg. 3-118) shows impacts for each Build Alternative by the type of wetlands being affected. Direct wetland dredge/fill impacts of the ten Build Alternatives range from the Black Alternative with 748 acres of wetland impacts to the Orange 2 Alternative with 476 acres. Other than the Black Alternative, the other nine Build Alternatives have wetland impacts within 10 percent of each other (476 – 518 acres). Substantial additional indirect and induced wetland impacts can be expected with any of the ten Build Alternatives as a result of future development. Potential indirect and induced (cumulative) impacts associated with the project alternatives are discussed in Section 3.23 of the Draft EIS.

The Draft EIS also includes information regarding the estimated Uniform Mitigation Assessment Methodology (UMAM) scores for each of the Build Alternatives. The State of Florida utilizes the UMAM to determine the amount of mitigation required to offset wetland and surface water impacts. USACE accepts UMAM as a suitable qualitative wetland assessment methodology. A comparison of the UMAM Functional Loss for the Build Alternatives is illustrated in Exhibit 3-50 (pg. 3-119).

The U.S. Army Corps of Engineers (USACE) and the SJRWMD will claim jurisdiction over most of the identified wetlands. As a result, a jurisdictional determination for wetlands will be needed during the project design phase. An individual Clean Water Act Section 404 permit will be required from the USACE, along with an Environmental Resource Permit required from the SJRWMD. EPA provides review and comment on individual Clean Water Act Section 404 permits.

The Draft EIS documents that FDOT has made the following specific commitments to avoid and minimize impacts to fish and wildlife resources: (1) FDOT will work with the agencies to design and construct wildlife underpass structures to address habitat connectivity; (2) the original project corridor width has been reduced from 400 feet to 324 feet to reduce loss of

upland and wetland habitat; and during design, FDOT will continue to examine feasible design modifications to further reduce impacts; and (3) the wetland mitigation and compensation effort will use a temporal lag factor to account for the time required for successful type for type mitigation and re-establishment of comparable hydroperiods to compensate for adverse impacts to the wood stork.

The proposed southern alignments would not result in an additional bridge across the St. John River since a new bridge would replace the existing Shands Bridge. In addition, due to the strong regional nature of the project and the high potential for landscape level impacts, including direct, indirect, and cumulative effects to upland and wetland habitat systems including the St. Johns River, and associated fish and wildlife resources, EPA is requesting that a regional plan for avoidance, minimization, and mitigation of project effects be developed. This is due in part to the complexity of the project in terms of the total number of proposed Build Alternatives, most of which have comparable levels of potential wildlife and habitat resource impacts, especially in terms of total acreage. This similarity necessitates a detailed comparison of habitat quality, value, and functional benefit that these habitat components contribute within the affected drainage basins upon which to base the selection of the Preferred Alternative. Furthermore, EPA recommends that any required wetlands mitigation be located proximal to the impact zones, not 10-30 miles away at approved regional wetland mitigation banks (Exhibit 3-51, pg 3-121). The Final EIS should include detailed information regarding a wetlands mitigation plan.

EPA recommends that FDOT consider organizing a technical advisory team of state, federal, and local resource and permitting agencies to assist in the process of formulating a wetlands mitigation plan in a manner compatible with existing regional natural systems for the protection of fish and wildlife and habitat resources in the potentially affected project area during the period of time during which the Draft EIS is being finalized. This is in keeping with the overall statement of purpose for the project by FDOT on page 1-2 of the Draft EIS which states: *"To address population growth and resulting traffic by providing additional capacity that meets the area's transportation, economic, employment and safety needs while avoiding, minimizing, and/or mitigating effects on the affected communities and the environment."*

EPA also recommends the establishment of an interagency technical advisory team of biologists and other environmental specialists to evaluate options to reduce and effectively mitigate wetland, wildlife, and water quality impacts. This team would be established and utilized as a collaborative resource after the preferred alternative is determined and prior to the timeframe that FDOT submits dredge/fill applications to the U.S. Corps of Engineers (COE) and the St. Johns River Water Management District (SJRWMD).

Wildlife and Habitat

EPA recognizes that the project has the potential to affect wildlife habitat and protected and/or endangered species. The Draft EIS provides information regarding the types and locations of wildlife and habitat that could be impacted by the project alternatives. In addition, the Draft EIS listed the wildlife species potentially occurring within the Build Alternatives. Exhibit 3-54 (pg. 3-129) illustrates the protected species potentially occurring within the Build

Alternatives and Exhibit 3-55 (pg. 3-134) lists the habitat impacts for each alternative. EPA defers to the parties (U.S. Fish and Wildlife Service, Florida Fish and Wildlife Conservation Commission, and other wildlife resource agencies) involved in wildlife habitat regulatory and management issues and in the Endangered Species Act Section (7) consultation process to consider and to address those potential adverse effects associated with the proposed project.

EPA recommends that FHWA and FDOT continue coordination with the appropriate resource agencies. The Final EIS should describe how the preferred alternative avoids, minimizes, or mitigates potential impacts to wildlife habitat and species.

Fish and Aquatic Resources

EPA recognizes that the project has the potential to affect fish and aquatic resources. Exhibit 3-56 (pg. 3-141) of the Draft EIS lists the aquatic habitat impacts associated with each Build Alternatives. EPA defers to the National Marine Fisheries Service (NMFS) involved in the process of making determinations regarding essential fish habitat (EFH) to consider and to address those potential adverse effects associated with the proposed project.

The Draft EIS states that an EFH Assessment has been prepared and consultation has been completed in accordance with the Manguson-Stevens Fishery Conservation and Management Act. It has been determined that this project will have adverse effects to essential fish habitat. Coordination is ongoing. EPA recommends that FHWA and FDOT continue coordination with the NMFS regarding the project and measures to avoid or minimize the effects to aquatic resources. The Final EIS should describe how the preferred alternative avoids, minimizes, or mitigates potential impacts to essential fish habitat.

Hazardous Sites and Contaminated Properties

EPA recognizes that the project has the potential to have contamination impacts that may exist within or adjacent to the limits of the proposed right-of-way for the Build Alternatives. The Draft EIS includes the identification and evaluation of what hazardous sites or contaminated properties are known or expected to be located in the area of each alternative. The document includes a write-up of the types of contaminated sites located in the study area and rates them as Low, Medium, or High Risk. Exhibit 3-62 (pg. 3-161) summarizes the numbers of Low, Medium, and High potential risk sites impacted by the various Build Alternatives.

FDOT has evaluated the proposed right-of-way and has identified in the Draft EIS the potential contaminated sites which could be impacted for the various proposed alternatives. The Draft EIS states that the results of the evaluation will be utilized in the selection of a preferred alternative. It further states that when a specific alternative is selected, a site assessment will be performed to the degree necessary to determine levels of contamination. EPA recommends that the Final EIS include information regarding contamination sites associated with the preferred alternative and what type of additional site assessment will be needed. It should also include what type, if any, site remediation will be needed in order for construction activities to proceed.

EPA also recommends that FDOT coordinate with the appropriate regulatory agencies regarding the resolution of problems associated with contamination or remedial action activities.

Floodplains

EPA recognizes that the project has the potential to have floodplain impacts within or adjacent to the limits of the proposed right-of-way for the Build Alternatives. All of the Build Alternatives will cross various waterways, including the St. Johns River and Black Creek. Other major creeks that are crossed by one or more alternatives include Grog Branch, Bradley Creek, Peters Creek, Governor's Creek, Mill Creek, Trout Creek, and Durbin Creek. The Federal Emergency Management Agency (FEMA) has established regulatory floodways at the proposed crossings of Grog Branch, Black Creek, Bradley Creek, Peters Creek, Governor's Creek, Mill Creek, Trout Creek, and Durbin Creek for one or more of the alternatives. This is displayed on a map (Exhibit 3-64, pg. 3-172) in the Draft EIS.

The Draft EIS states that all Build Alternatives would encroach on regulatory floodways but that the crossings will be designed such that there will be no significant increase in the Base Flood Elevation. FDOT has determined that floodplain impacts do not vary significantly among the southern alternatives, but the Black and Purple Alternatives will have a significant impact on floodplains due to one longitudinal crossing. Exhibit 3-61 on page 3-173 summarizes the number of transverse and longitudinal crossings of 100-year floodplains and regulatory floodways.

The Draft EIS also includes measures to avoid or minimize the effects of the project on floodplains. One of the measures states that FDOT will: "Ensure none of the Build Alternatives will have longitudinal encroachments on the floodplain." This would be applicable to the northern alignments (Black and Purple). Other measures are proposed to meet the requirements of FEMA, FDOT, and the SJRWMD regarding regulatory floodplain issues. EPA supports the elevating or bridging of structures for waterway crossings for all 100-year floodplains. This would be consistent with necessary measures to protect the sensitive aquatic species and their habitat in the same waterbodies.

EPA is concerned that the construction of this project will encourage development within and along the project corridor. The Draft EIS states on page 3-173 that it is not anticipated that the proposed project would encourage any floodplain development due to local floodplain regulations and management from SJRWMD. EPA disagrees with this statement and requests clarification and additional information which support the statement. EPA recommends that the Final EIS include information regarding floodplains associated with the preferred alternative and what type of additional avoidance or minimization efforts will be needed to meet regulatory floodplain standards. The Final EIS should also include mitigation commitments for unavoidable floodplain impacts.

Indirect and Cumulative Impacts

The indirect effects of a project on land use and the subsequent environmental effects can be both temporally and geographically more extensive than the direct impacts of transportation projects. The analysis of these changes and the subsequent environment impacts is important to understand the total impact of the federal action on the natural, cultural and socioeconomic environment. Consideration of indirect and cumulative impacts requires the assessment of an area's ability to absorb additional development, the loss of businesses or residences, or if the watershed can absorb the loss of additional wetlands.

The Draft EIS has a good qualitative discussion of areas for development potential in the project study area, as compared to the No Build Alternative. The Draft EIS compares the Northern Corridor Build Scenario (Black and Purple) and the Southern Corridor Build Scenario (Brown 1 and 2, Orange 1 and 2, Green 1 and 2, and Pink 1 and 2) relative to indirect and cumulative impacts. The document provides detailed information on the types and estimated quantitative amount of indirect and cumulative effects. Based upon analyses of various land use and growth indicators forecast through 2030, FDOT determined that the Northern Corridor Build Scenarios has no substantive difference in forecasted development (indirect effects) in relation to the No Build Scenario. However, encroachment/alteration effects may occur on some of the resources. The Southern Build Corridor has the potential to have indirect effects on resources. Exhibit 3-69 provides a summary of the potential indirect effects from forecasted development and encroachment/alteration from the No Build Scenarios and the Southern Corridor Build Scenario.

The Draft EIS also includes a detailed discussion and summary comparison of impact and benefits of the No Build Alternative and all ten Build Alternatives. This summary is provided in Exhibit 3-74 on pages 3-212 to 3-216.

Overall, all of the Build Alternatives will result in cumulative effects on resources. The greater Jacksonville area is undergoing rapid population and employment growth with or without the proposed project. This growth is anticipated to continue under the Build Scenarios and the No Build Scenario. FDOT should carefully assess both indirect and cumulative effects on the surrounding area and the effect that this project has on resources of concern when selecting a Preferred Alternative. EPA recommends that the Final EIS include a thorough discussion of the rationale behind selection of the preferred alternative in light of the concerns.

The Draft EIS states that the Northern Build Corridor has no substantive difference in forecasted development (indirect effects) in relation to the No Build Scenario and that the Southern Build Corridor is expected to have greater indirect and cumulative effects. EPA has concerns that this has not been properly assessed and described in the document. EPA does agree that the Southern Build Corridor alignments will result in significant indirect and cumulative effects. However, both the Black and Purple Alternatives will result in an entirely new river crossing location. The Jacksonville area in northern Clay and St. Johns Counties is currently undergoing rapid population and employment growth with or without the proposed project. Construction of a new bridge crossing and supporting interchanges in this northern corridor would significantly accelerate and intensify existing suburban sprawl and induce several

hundred acres, or more, of additional environmental impacts with planned future development. In addition, development in the southwest portion of Clay County (Penney Farms area) could also result from the construction of the Northern Build Corridor (Black and Purple). Land use planning measures, including access control, land conservation, and/or land acquisition, could be put into place for all of the Build Alternatives which would serve to minimize the potential negative environmental impacts resulting from land use changes in the project area.

The Final EIS should include the indirect and cumulative effects associated with the preferred alternative. It should also include avoidance, minimization and mitigation measures that will be utilized to help reduce indirect and cumulative effects. In addition, if there are important existing natural resources, such as high quality wetlands or wildlife habitat, in the vicinity of any of the alternatives, these areas should be identified for potential acquisition as mitigation sites. Other mitigation for indirect water quality impacts might include opportunities to expand riparian buffers adjacent to impacted streams and rivers in the project vicinity.

A critical aspect of the Final EIS will be to provide the local communities with a better understanding of the land use implications that will be expected from implementation of the project. With this information, these communities can develop future land use plans and potential zoning regulations that could be enacted in concert with development of the transportation infrastructure. All factors, including direct, indirect and cumulative effects, must be evaluated and considered when determining the least environmentally-damaging practicable alternative that will fulfill the project purpose and need.